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Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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MAR 31 1993

FEDERAL COMMUNICATIONS COMMISSION  
COMMUNICATIONS SECTION

In the Matter of )  
 )  
Amendment of the rules relating to ) MM-Docket 92-305  
permissible uses of the vertical )  
blanking interval of broadcast )  
television signals )

**Comments of the  
NATIONAL ASSOCIATION OF BROADCASTERS**

The National Association of Broadcasters<sup>1</sup> ("NAB") hereby submits its comments in response to the Commission's Notice of Proposed Rule Making<sup>2</sup> ("Notice") in the above referenced proceeding. NAB fully supports the Commission's proposal to amend section 73.682(a) of the Commission's Rules to reserve line 19 in the vertical blanking interval ("VBI") for the optional use of the Ghost Canceling Reference ("GCR") signal standardized by the Advanced Television Systems Committee ("ATSC") and to permit the transmission of expanded Closed Captions on line 21 of the VBI.

**I. Introduction and Summary.**

NAB applauds the Commission action of October 22, 1992, ordering the suspension of Section 73.682(a)(21)(iv) of the Rules permitting broadcasters to begin transmitting the GCR signal on

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<sup>1</sup> NAB is a non-profit incorporated association serving and representing America's television and radio stations and networks.

<sup>2</sup> MM Docket No. 92-305, Notice of Proposed Rule Making, released December 31, 1992.

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line 19.<sup>3</sup> This action has no doubt accelerated early implementation of ghost canceling technology.<sup>4</sup>

The current Notice is in response to Petitions for Rule Making filed by ATSC on August 14, 1992 ("ATSC Petition")<sup>5</sup> and by the Consumer Electronics Group of the Electronic Industries Association ("EIA/CEG") on July 7, 1992 ("EIA/CEG Petition").<sup>6</sup> NAB filed comments in support of the ATSC petition on September 28, 1992.<sup>7</sup> In those comments, NAB urged the Commission to grant ATSC's request to modify the Commission's Rules to reserve VBI line 19 for the optional, but exclusive, use of the ATSC GCR signal, citing the public benefit that could be achieved by a ghost canceling standard and concluding that "ATSC made every attempt to solicit and properly evaluate all serious ghost canceling proponents and that ultimately the best GCR signal was selected as the ATSC standard."<sup>8</sup> On September 24, 1992, NAB filed comments in support of the EIA/CEG Petition.<sup>9</sup> In those comments, NAB

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<sup>3</sup> Order, "Suspension of Section 73.682(a)(21)(iv) of the Commission's Rules to Permit Additional Use of Line 19 of the TV Vertical Blanking Interval," 7 FCC Rcd 7158 (1992).

<sup>4</sup> For instance, NAB is aware that the ability to generate the ATSC GCR signal is now available in new equipment and field upgrade kits from Tektronix Inc. and that Philips Broadband Networks is now manufacturing a ghost canceler using the ATSC GCR signal for professional applications such as cable headend pickup of over-the-air broadcast signals. Products from other manufacturers may also be available in the near future.

<sup>5</sup> Public Notice, Report No. 1905, released August 27, 1992.

<sup>6</sup> See Public Notice, Report No. 1904, released August 25, 1992.

<sup>7</sup> Comments of NAB in RM-8067, filed September 28, 1992.

<sup>8</sup> Id. at 3.

<sup>9</sup> Comments of NAB in RM-8066, filed September 24, 1992.

supported the enhancement of the Closed Caption system because of the potential value to the hearing impaired community and general public interest benefits.

In the Notice, the Commission proposes to expand the Closed Caption system so that data can be transmitted on both fields 1 and 2 of VBI line 21. In addition, the Commission proposes to delete certain parts of Section 73.699, figures 16 and 17 regarding the Closed Caption transmission signal that are now obsolete.<sup>10</sup> Further, with regard to VBI line 19, the Commission proposes to describe the ATSC GCR signal in an OET Bulletin with a reference to it being placed in the Commission's Rules.<sup>11</sup> NAB supports both proposals and urges the Commission to institute the proposed rule changes as rapidly as possible, further accelerating the pace of ghost canceling implementation and enhanced Closed Captioning.

## **II. The Commission's Rules Should Specify That Line 19 is Reserved Specifically For the ATSC GCR Signal.**

The Commission asked for comments on whether line 19 should simply be reserved for use by GCR signals without specifying any particular system, as opposed to including a specific reference to the ATSC GCR signal, as proposed in the Notice.<sup>12</sup> NAB urges the Commission to specify the GCR signal standardized by ATSC as the only signal allowed on line 19. A single technical standard for ghost canceling is vitally important to assure the most rapid implementation of this technology. A single standard facilitates competition among

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<sup>10</sup> Notice at ¶ 11.

<sup>11</sup> Id. at ¶ 15.

<sup>12</sup> Id.

manufacturers leading to lower consumer prices, lowers the risk of failure of introducing ghost canceling in the television industry, and achieves rapid implementation by gaining the confidence of broadcasters and receiver manufacturers alike that their financial investment in such technology will be justified.

The ATSC GCR signal standard was the result of an intense three year effort by the television industry to seek out proponent ghost canceling systems, evaluate them and select the best GCR signal as a voluntary standard for the television industry. NAB actively participated in all ghost canceling activities of the ATSC and fully supported the ATSC process of evaluating ghost canceling systems and the results of that process. NAB's endorsement of the ATSC GCR signal standard was formalized at the NAB Board of Directors meeting held in Naples, Florida, in January 1993, when the NAB Television Board of Directors adopted a Resolution on Ghost Canceling for NTSC Broadcasting. The conclusions from that Resolution are as follows:

"The NAB Television Board of Directors --

1. Fully endorses the ATSC voluntary broadcast standard for ghost canceling for NTSC television broadcasts; and
2. Urges television stations to implement the ATSC Standard at the earliest possible date with the goal of achieving rapid and widespread usage of ghost canceling in terrestrial broadcast television service."<sup>13</sup>

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<sup>13</sup> NAB Television Board of Directors, "Resolution: Ghost Canceling for NTSC Broadcasting," adopted by the NAB Television Board of Directors, Naples, Florida, January 17, 1993.

As noted in the ATSC Petition, the ATSC GCR signal standard enjoys the full support of the ATSC membership.<sup>14</sup> With such widespread support by the affected industries, incorporating the ATSC GCR signal standard in the Commission's Rules is appropriate and will further encourage all television industry participants to implement ghost canceling technology as rapidly as possible.

NAB agrees with the Commission's proposal to specify use of the ATSC GCR signal by embodying the definition of the ATSC GCR signal in an OET Bulletin with a reference to its being placed in the Rules. As discussed in the Notice, the Commission employed a similar approach for codifying the standard for TV stereo.<sup>15</sup> As with TV stereo, placing the technical details of the ATSC GCR signal standard in an OET Bulletin is an expedient and satisfactory method of assuring that the precise technical standard is fully documented. The reference in Section 73.682(a)(21)(iv) of the Rules to that OET Bulletin as proposed is then the only change needed in the Commission's Rules.

### **III. Adopting the ATSC GCR Signal Standard Will Not Stifle Improvements in Ghost Canceling System Performance.**

The Commission asked for comments on whether including the GCR signal in its Rules in the manner proposed would hinder flexibility or improvements in ghost canceling technology.<sup>16</sup>

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<sup>14</sup> See ATSC, Petition for Rule Making ("ATSC Petition"), filed August 14, 1992, at 8.

<sup>15</sup> In that instance, this method of standardization was entirely satisfactory in gaining the confidence of the television industry and TV stereo has flourished.

<sup>16</sup> Notice at ¶ 15.

NAB does not believe that adoption of the ATSC GCR signal standard by the Commission will have any material adverse consequences on the pace of improvements in ghost canceling system performance.

Adoption of a technical standard must, by its nature, preclude other non-conforming systems from being implemented and, in so doing, may be criticized for stifling the introduction of new innovative technology. However, in the vast majority of cases, the benefits of having a single standard far outweigh any disadvantages of "freezing" technology brought about through adoption of a standard. In particular, the ATSC GCR signal standard has excellent inherent features facilitating significant improvements in future ghost canceling system performance through signal processing improvements in improved ghost canceling receivers.<sup>17</sup> The ATSC GCR signal standard incorporates significant "headroom" to accommodate future improvements in GCR signal processing hardware and software. Adopting the ATSC GCR signal standard does not establish system performance limits that could otherwise be exceeded with a more flexible GCR signal regulatory policy. These matters were discussed within the ATSC and the potential for system improvements using the ATSC GCR signal is clearly one of the benefits to adopting this particular standard.

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<sup>17</sup> See, for example, NAB Comments at 4-5.

#### **IV. Current Applications of the VIR Signal Can Be Easily Displaced From Line 19 to Another VBI Line.**

Prior to the Commission action of October 22, 1992, VBI line 19 was reserved for the use of the VIR signal. This signal requirement was designed to promote greater uniformity and consistency of color television reception through stimulating production of specially equipped television receivers that could process the VIR signal. ATSC studied the prevalence of VIR-equipped television sets and found that they were only manufactured in any significant quantity by General Electric Corporation, have not been manufactured at all since 1985 and are not believed to be in wide circulation.<sup>18</sup>

The Commission sought comment on any current applications of the VIR signal on VBI line 19 and whether its abandonment in favor of the GCR signal should be precluded.<sup>19</sup> NAB notes that while the VIR signal no longer practically serves its original purpose of automatic alignment of television receivers in homes, some television stations still employ the VIR signal in a closed loop configuration around their transmitter link in conjunction with an automatic video corrector device<sup>20</sup> for maintaining proper alignment of the transmitted signal.

Permitting only the ATSC GCR signal on VBI line 19 would require broadcasters that wish to continue using the VIR signal for closed loop transmitter alignment to relocate the VIR signal to another VBI line and configure their automatic video corrector to acquire the VIR signal on

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<sup>18</sup> See ATSC Petition, at 4-5.

<sup>19</sup> Notice at ¶ 14.

<sup>20</sup> The Tektronix Model 1440 Automatic Video Corrector was, to our knowledge, the only such device available for this purpose. The unit is no longer manufactured.

that new line. Moving the VIR signal to another VBI line is easily achieved using modern VBI signal inserter equipment.<sup>21</sup> Also, adjusting the automatic video corrector to acquire the VIR signal on a different line other than line 19 is likewise easily achieved by reconfiguring circuit board jumpers.<sup>22</sup> NAB believes that this slight inconvenience is well worth the effort in exchange for the overall benefits of an industry-wide ghost canceling standard.

**V. The Commission Should Allow Transmission of Closed Captions on Field 2 of Line 21.**

NAB believes the Commission should allow for the placement of closed captions and other data services on field 2 of line 21 of the VBI. Amending Section 73.682(a)(22)(i) of the Commission's Rules (which currently restricts the placement of closed caption data to line 21, field 1 and only the first half of line 21, field 2,<sup>23</sup>) as proposed in the Notice will result in improved service for all consumers, including those with hearing impairments. The additional capacity that will become available as a result of allowing captions to be transmitted on line 21, field 2 will make possible the implementation of new services such as full second language captioning as well as other data broadcasting services that will allow broadcasters to better serve the public interest. Further, NAB believes that the proposed changes to line 21 will have no negative effect on TV transmission, but rather will provide a much needed important public service.

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<sup>21</sup> See, for example, Tektronix Inc., Operator's Manual for Model 1910 Digital Generator, March 1990, at page 3-8.

<sup>22</sup> See Tektronix Inc., Instruction Manual for Model 1440 Automatic Video Corrector, Sept. 1989, at page 2-13.

<sup>23</sup> See 47 C.F.R. §73.682(a)(22)(i) (1991).

**VI. Conclusion.**

NAB urges the Commission to implement reserving line 19 in the VBI for the optional, but exclusive, use of the GCR signal standardized by ATSC and to extend closed captions to field 2 of line 21. The specific rule changes proposed in the Commission Notice are entirely satisfactory for the purpose of enhancing the Closed Caption system and assuring a single transmission standard for a GCR signal that will result in the most rapid implementation possible for ghost canceling technology in the television industry.

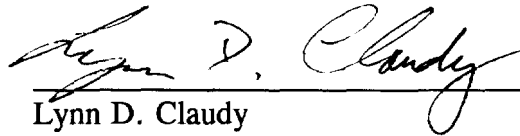
Accordingly, NAB supports the Commission's proposals and urge adoption of the new rules as rapidly as possible.

Respectfully submitted,

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March 1, 1993